

ANASTAS'IN, V.F.; ARAK'ELOV, A.S.; BOBROV, A.L.; VIKHOREV, Yu.V.; VIL'DER, S.I.; GLUSHKO, I.K.; GOKUN, A.M.; PIN'KOVSKIY, Ya.I.; PASHKOV, N.D.; RYABUKHA, G.K.; REBENKO, G.S.; SMUROV, Fedor Pavlovich; SOSKIND, D.M.; SAMSONOV, B.A.; SEMENOV, A.B.; SULEYMANOV, A.B.; KHARLAMOV, A.A.; TSAR'KOV, B.N.; SHIFRIN, D.L.; SHEYNMAN, V.I.; ABAKUMOVSKIY, Dmitriy Dmitriyevich, red.toma; SVYATITSKAYA, K.P., vedushchiy red.; TROFIMOV, A.V., tekhn.red.

[Petroleum equipment; in six volumes] Neftianoe oborudovanie; v shesti tomakh. Moskva, Gos.nauchno-tekhn.izd-vo neft. i gorno-toplivnoi lit-ry. Vol.4. 1959. 294 p. (MIRA 12:9)  
(Petroleum refineries--Equipment and supplies)

1. TSAR'KOV, G. ; PYATETSKIY, B.
2. USSR (600)
4. Drilling and Boring Machinery
7. Universal device for boring main bearings in cylinder blocks.  
Tekhsov. MTS 13. No. 37. 1952.

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

BUKHATANOV, I.N.; TSAR'KOV, G.A.; PRYSIAKHOV, V.K.; KATSER, B.M.;  
VAKHRAMYEVA, T.N.; TRET'YACHENKO, S.Ya.

Rubber coatings and belts for draw boxes on spinning machines.  
Tekst.prom. 19 no.2:20-24 F '59. (MIRA 12:5)  
(Spinning machinery) (Rubber coatings)

85187

S/135/60/000/003/004/005

A115/A029

1. 2300 only 2208, 2708

AUTHORS: Tret'yakov, F.Ye., Candidate of Technical Sciences, Karan, A.B.,  
Graduate Engineer and Tsar'kov, G.P., Technician

TITLE: Relief Welding of Alloyed Steel and Titanium Parts

PERIODICAL: Svarochnoye proizvodstvo, 1960, No. 3, pp. 35-37

TEXT: The authors describe relief welding of anchor nuts, bushes and connecting pipes of BT-1 (VT-1) titanium or EI 654 (EI 654) and 30XГСА (30KhGSA) steel. All parts were welded to 2-3 mm plates. Ring-embossed parts were made of rod-iron on a turning-lathe and had a class 4 surface finish according to ГОСТ-2789-51 (GOST-2789-51). Anchor nuts were subjected to hard forging, hardening and sand-blasting. Parts of VT-1 titanium and EI 654 steel were degreased with acetone and sometimes finished with medium emery cloth. Satisfactory results were obtained with titanium (Fig. 1a), EI 654 steel (Fig. 1b) anchor nuts, VT-1 titanium and EI 654 connecting steel pipes and bushes (Fig. 1v, g), and double-looped anchor bolts of EI 654 and 30 KhGSA steel (Fig. 2). Special electrodes of cadmium copper and МЦ -4 (MTs-4) alloy of NV 110 hardness were used. Relief contact welding of an anchor nut is shown in Figure 3. Single-phase МТП-75 (MTP-75) welding machines equipped with ПИТ-100 (PIT-100) cur-

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A115/A029

Relief Welding of Alloyed Steel and Titanium Parts

rent contact breakers and PACT-4A (RAST-4A) stabilizers and МТН-450-2 (MTIP-450-2) continuous current welding machines were used. The success of welding depends on the smooth contact surface of the electrodes and close adhesion of the pattern to the weldments. Recommended welding conditions are shown in a table on Page 36. The quality of the welds was determined by technological tests (Fig. 4), macrostructural examination and airtightness tests. No defects were revealed. Figure 5 shows the macrostructure of a connecting pipe. Airtightness tests were performed at 5 atm. Parts in which non-fusion is discovered can be subjected to repeated processing with a 10-15 % higher voltage. There is 1 table and 5 figures.

Card 2/2

S/135/60/000/001/004/005  
A006/A001

AUTHORS: Tret'yakov, Fe. Ye., Candidate of Technical Sciences, Karan, A. B.,  
Engineer, Tsar'kov, G. P., Technician

TITLE: The Strength of AMГ6T (AMG6T) Alloy Spot Welds at High Temperatures

PERIODICAL: Svarochnoye proizvodstvo, 1960, No. 1, pp. 27-28

TEXT: Data are presented on the strength of AMG6T alloy spot welds subjected to shearing and rupture tests at 20, 200 and 300°C. The specimens were welded on a MTM-450-2 (MTIP-450-2) three-phase pulse machine. Prior to welding they were etched in orthophosphoric acid. Cadmium-copper electrodes were used. The diameter of welded spots was selected depending on the thickness of the parts to be welded according to industrial instructions. The penetration depth was 40 to 50% of the sheet thickness under welding conditions given in Table 1. The welded specimens were tested on a 30-ton machine equipped with a heating installation which ensured the uniform heating of specimens up to 300°C. The temperature was checked with an ЭПА-17 (EPD-17) thermoregulator. During the tests the specimen was held for 5 minutes at the given temperature and was then subjected to loading until its breakdown. When subjected to static shearing

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A006/A001

# The Strength of AMΓ6T (AMG6T) Alloy Spot Welds at High Temperatures

the strength of a single-spot weld decreased in 1 - 2 mm thick specimens by 8 - 15% at 200°C and by 24 - 39% at 300°C, as compared to the strength at normal temperature. The strength of single spot welds of 1 - 3 mm thick specimens subjected to static rupture increased slightly at 200°C and decreased at 300°C by 20 - 32% as compared to normal temperature. The ductility of the spot weld was estimated by calculating the ratio  $R_{\text{rupt}} / R_{\text{sh}}$  . 100% ✓

where  $R_{\text{rupt}}$  and  $R_{\text{sh}}$  are the corresponding breaking forces in rupture and shearing tests. This ratio increases generally with a greater thickness of the material and higher temperature of tests when welding AMG6T alloys. [Abstractor's note: Subscripts rupt and sh are translations from the original of (otryv - rupture) and sr (srez - shear)]. There are 2 figures and 2 tables.

Card 2/2

TSAR'KOV, I., personal'nyy pensioner, chlen Kommunisticheskoy Partii  
Sovetskogo Soyuza.

An apprenticeship. Prof.-tekh.obr. 14 no.10:27-28 0 '57.

(MIRA 10:10)

(Apprentices)



*Tsar'kov, I.*

27-10-12/21

AUTHOR: Tsar'kov, I., Pensioner, Member of the KPSS since 1919

TITLE: Pages of the Past (Stranitsy bylogo) Apprenticeship (V uchenii)

PERIODICAL: Professional'no - Tekhnicheskoye Obrazovaniye, 1957, # 10,  
p 27-28 (USSR)

ABSTRACT: The author describes his 4 years as a cabinet maker's apprentice,  
the conditions under which he had to work and live, and the  
attitude of his boss and master-craftsmen.

AVAILABLE: Library of Congress

Card 1/1

TSAR'KOV, N.M., inzh.

From work experience of industrial innovators. Sudostroenie  
30 no.11:62 N '64. (MIRA 18:3)

VINOGRADOV, S.S.; MOLOKANOV, V.P.; TSAR'KOV, N.M.; FRIZH, V.A.

Progressive repair methods for whalers. Sudostroenie no. 11:68/72  
N '65 (MIRA 19:1)

TSAR'KOV, V., red.; VORONKOVA, Ye., tekhn.red.

[Work of mechanical engineers in Penza for the chemical industries] Penzenskie mashinostroiteli - khimicheskoi promyshlennosti. Penza, Penzenskoe knizhnoe izd-vo, 1959.  
68 p. (MIRA 13:4)  
(Penza--Chemical engineering--Equipment and supplies)

VINOGRADOV, Vitaliy Andreyevich; KAYCHEV, Vsevolod Ivanovich;  
TSAR'KOV, V., red.; VORONKOVA, Ye., tekhn.red.

[Machine parts made of plastics] Detali mashin iz plastmassy.  
Penza, Penzenskoe knizhnoe izd-vo, 1960. 55 p. (MIRA 14:2)

(Plastics)

TSAR'KOV, V., red.; VORONKOVA, Ye., tekhn.red.

[Over-all mechanization and automation of production; practices  
of factories under the Penza Economic Council] Kompleksnaia  
mekhanizatsiia i avtomatizatsiia proizvodstva; iz opyta zavodov  
Penzenskogo sovnarkhoza. Penza, Penzenskoe knizhnoe izd-vo, 1959.  
(MIRA 13:4)  
230 p. (Penza Province--Industries) (Automatic control)

GONCHAROV, Konstantin Fedorovich [deceased]; TSAR'KOV, V., red.; VOROM-KOVA, Ye., tekhn.red.

[Reinforced concrete construction foremen; Assembly workers on construction sites] Masters zhelezobetona; Montazhniki na stroike.  
Penza, Penzenskoe knizhnoe izd-vo, 1958. 37 p. (MIRA 13:3)  
(Reinforced concrete construction)

PROKHOROV, Mikhail Andreyevich; ASTAF'YEV, V.Ya., kand.nauk, red.;  
TSAR'KOV, V., red.; VORONKOVA, Ye., tekhn.red.

[Hearing and sound] Zvuk i slukh. Pod red. V.IA. Astaf'eva.  
Penza, Penzenskoe knizhnoe izd-vo, 1959. 38 p. (MIRA 13:2)  
(Sound) (Hearing)



TSAR'KOV, V.

~~TSAR'KOV, V.~~  
Pressed felt from woolen waste products. Prom.koop.no.11:8 H '56.  
(MLRA 9:12)

1. Tekhnicheskiy rukovoditel' arteli "Mytishchinskiy zagotvtor-  
syr'ye."  
(Felt)

TSAR'KOV + J.

PHASE I BOOK EXPLOITATION

SOV/3899

Kompleksnaya mekhanizatsiya i avtomatizatsiya proizvodstva; iz opyta zavodov Penzenskogo sovnarkhoza (Overall Industrial Mechanization and Automation; From Experience of Factories Under the Penza Council of the National Economy) [Penza] Penzenskoye knizhnoye izd-vo, 1959. 230 p. Errata slip inserted. 2,000 copies printed.

Ed.: V. Tsar'kov; Tech. Ed.: Ye. Voronkova.

PURPOSE: This collection of articles is intended for the general reader interested in the mechanization and automation of machine-tool production

COVERAGE: The efforts of industrial workers of the Penza district to fulfill ahead of time the objectives set forth in the Seven Year Plan are discussed in these 11 articles. The need for complete automation in the production of machine tools and instruments is strongly emphasized. No personalities are mentioned. There are no references.

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Illyashevich, V.A. Continuous Production Lines in Diesel Engine Manufacturing 53

HIGH-EFFICIENCY PROCESS EQUIPMENT

Yekaterinin, V.S. [Engineer]. Numerical Control of Metal-Cutting Machine Tools 90

Morozov, A.I. [Candidate of Technical Sciences]. Pneumohydraulics and the Automation of Machine Tools in Small-Lot Production 110

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Voyevoda, Yu.A., [Engineer], V.M. Okorokov [Engineer], and R.N. Fridman [Engineer]. Mechanization of Work in the Cleaning Departments of Foundry Sections 132

Card 2/3

Overall Industrial Mechanization and Automation (Cont.) SOV/3899

FOR OVERALL IMPROVEMENT IN PRODUCTION TECHNIQUES

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AVAILABLE: Library of Congress

Card 3/3

VK/rem/gmp  
8-11-60

TSAR'KOV, V.A.

Certain problems concerning the temperature stability and design  
of transistor circuits. Radiotekhnika 16 no.10:51-57 2 '61.  
(MIRA 14:10)

(Transistor circuits)

LOBITSKIY, Vadim Grigor'yevich; TSAR'KOV, Vasil'y Andreyevich;  
ZIMIN, N., red.; IVANOV, N., tekhn. red.

[Introducing advanced welding methods] Vnedriaem poredovye  
metody svarki. Kaluga, Kaluzhskoe knizhnoe izd-vo, 1962. 70 p.  
(MIRA 15:10)

(Welding)

393h9

S/108/62/017/007/005/008  
D288/D308

9.2520

AUTHOR: Tsar'kov, V. A.

TITLE: Calculation of transistor circuit operation  
based on the theory of autonomous quadrupoles

PERIODICAL: Radiotekhnika, v. 17, no. 7, 1962, 48-54

TEXT: Based on the concept of an "autonomous" quadrupole, developed by E. V. Zelyakh (Ref. 4: Osnovy obshchey teorii lineynykh elektricheskikh skhem [Principles of a general theory of linear electric networks], Izd. AN SSSR, 1951), a general analysis of the active quadrupole (transistor) and passive quadrupole (external circuit) is undertaken, both networks having parallel inputs and outputs. Equations for input and output currents in terms of y-parameters are formulated and used to work out all relevant current and voltage values of the transistor. The transistor input resistance  $R_{in}$  is neglected, which

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D288/D308

Calculation of transistor...

leads to a very simple formula for the stability coefficient  
 $S = -y_{22}/y_{12}$ . A table compares 4 different circuits for sta-  
 bilizing the base current (potentiometer feed and series d.c.  
 feedback from collector, using one or two batteries), quoting  
 values for various y-parameters, S and  $I_c$ . A discussion of  
 the effect of  $R_{in}$  is given, indicating that the simplified me-  
 thod is permissible in the case of transistors with a current  
 gain of 40 and higher. There are 2 figures and 1 table.

SUBMITTED: April 22, 1961 (initially)  
 June 8, 1961 (after revision)

Card 2/2



ACC NR: AP6024853

SOURCE CODE: UR/0371/66/000/002/0057/0064

AUTHOR: Tsar'kov, Ye. P. — Carkovs, J.

ORG: Latvian state university im. P. Stuchka (Latviyskiy gosudarstvennyy universitet)

TITLE: On stochastic differential equations with delay

SOURCE: AN LatSSR. Izvestiya. Seriya fizicheskikh i tekhnicheskikh nauk, no. 2, 1966, 57-64

TOPIC TAGS: differential equation, stochastic differential equation, delayed differential equation, *STOCHASTIC PROCESS*, *EXISTENCE THEOREM*, *UNIQUENESS THEOREM*

ABSTRACT: Stochastic differential equations with constant delay are considered. Existence and uniqueness theorems as well as the theorem of continuous dependence upon the initial function have been proved. Asymptotic behaviour of the equation

$$x(t) = \varphi(0) + \int_0^t m(x(s), x(s-\tau), s) ds + \varepsilon \int_0^t \sigma(x(s), x(s-\tau), s) dv(s)$$

reflecting the approach to the limit of the initial function for  $\varepsilon \rightarrow 0$

$$\frac{d\xi}{ds} = m^*(\xi, s) + \varepsilon \sigma(\xi, s) \frac{d\omega(s)}{ds}$$

Card 1/2

MESKINA, E.I.; PIKHMAN, V.D.; PETRUNIN, N.I.; TSAR'KOVA, A.V.

Means of reducing the amount of dimethylformamide used in the  
manufacture of nitron fiber. Khim.volok. no.4:13-18 '60.

(MIRA 13:10)

1. Kalininskiy filial Vsesoyuznogo nauchno-issledovatel'skogo  
instituta iskusstvennogo volokna (for Meskina, Pikhman). 2. Eksperi-  
mental'nyy zavod Vsesoyuznogo nauchno-issledovatel'skogo instituta  
iskusstvennogo volokna (for Petrunin, TSar'kova).  
(Formamide) (Orlon)

TSAR'KOVA, L.N.

Recurrent rheumatism, its treatment and prevention. Trudy  
MONIKI no.5:17-28 '62. (MIRA 16:4)

1. II terapevticheskaya klinika Moskovskogo oblastnogo  
nauchno-issledovatel'skogo klinicheskogo instituta imeni  
Vladimirovskogo (zav. - doktor med.nauk L.P.Pressman).  
(RHEUMATIC HEART DISEASE)

TSAR'KOVA, T.A.

Use of "mediosol" and mediochrome union dyes for the dyeing  
of wool mixtures. Tekst. prom. 23 no.7:62-63 J1 '63.

(MIRA 16:8)

1. Starshiy master krasil'no-otdelochnogo proizvodstva  
Grodzenskogo tonkosukonnogo kombinata.  
(Dyes and dyeing—Wool)

MECHAYEVA, N.G.; YUDIN, V.G.; HOE-EDENLOVA, .I.; ISARIKOV, V.A.

Nature of the secondary dormancy of tree seeds. Bot. zhurn. 49  
no.12:1706-1724, D 1964 (MIRA 18:4)

1. Botanicheskiy institut imeni Komarova ul. 3331, Leningrad.

SMIRNOVA, M.V.; KUCHINSKAYA, N.Ye.; LEBEDEVA, Z.I.; TSAR'KOVA, V.I.

Study of the arginase activity of a toxicogenic strain of *Staphylococcus albus* in vitro and in the process of cultivation. Vop. med. khim. 8 no.2:181-186 Mar-Apr '62. (MIRA 15:4)

1. Department of Biochemistry, N.F.Gamaleya Institute of Epidemiology and Microbiology, Academy of Medical Sciences of the U.S.S.R., Moscow.  
(STAPHYLOCOCCUS ALBUS) (ARGINASE)

GRIBOV, Lev Aleksandrovich; TSAR'KOVA, E.I., red.

[Introduction to the theory and calculation of the  
vibrational spectra of polyatomic molecules] Vvedenie  
v teoriyu i raschet kolebatel'nykh spektrov mnogo-  
atomnykh molekul. Leningrad, Izd-vo Leningr. univ., 1965.  
122 p. (MIRA 18:7)

KACHENSKI, V. I.; KACHENSKI, V. I.; KORACHEVSKIY, Vitaliy Georgiyevich;  
KACHENSKI, V. I., 1965.

[Kinetics of phase transformations of water in the atmosphere]  
Kinetika fazovykh perekhodyv vody v atmosfere. Leningrad,  
Izd-vo Leningr. univ., 1965. 143 p. (MIRA 18:8)



BUKHARINOV, G.N., dots.; L'VOVICH, A.Yu.; SABANEYEV, V.S.; TIKHONOV,  
A.A.; TOVSTIK, P.Ye.; TSAR'KOVA, Z.I., red.

[Laboratory manual on the theory of oscillations] Laborator-  
nyi praktikum po teorii kolebaniy. Leningrad, Izd-vo Leningr.  
univ., 1965. 75 p. (MIRA 18:4)

1. Leningrad. Universitet. Matematiko-mekhanicheskiy fakul'tet.

MATVEYEV, Nikolay Mikhaylovich; TSAR'KOVA, Z. I., red.; KISELEVA,  
L. I., tekhn. red.

[Differential equations] Differentsial'nye uravneniia;  
metodicheskoe posobie dlia zaochnikov. Leningrad, Izd-vo  
Leningr. univ., 1963. 414 p. (MIRA 16:11)  
(Differential equations)

Y I VSKIV, Boris Mikhaylovich; Priyazh uchastiye BRYUNELLI, B.Ye.,  
dots.; TSAR'KOVA, Z.I., red.

[Terrestrial magnetism] Zemnoi magnetizm. Leningrad, Izd-  
vo Leningr. univ. Vol.1. [Morphology and theory of the  
earth's magnetic field and its variations] Morfologiya i  
teoriya magnitnogo polia Zemli i ego variatsii. 1964. 445 p.  
(MIRA 17:8)

1. Kafedra fiziki zemnoy kory Leningradskogo gosudarstven-  
nogo universiteta (for Bryunelli).

CHERNYKH, Klimentiy Feodos'yevich; ISAK'KOVA, Z.I., red.

[Linear theory of shells] Lineinaya teoriya obolochek.  
Leningrad, Izd-vo Leningr. univ. Pt.2. [Some theoretical  
aspects] Nekotorye voprosy teorii. 1964. 394 p.  
(Mink 17:10)

MATVEYEV, Nikolay Mikhaylovich; TSAR'KOVA, S.I., red.

[Variants of test papers and test cards for oral examinations in mathematics] Varianty pis'mennykh razot i bilety dlia ustnykh ekzamenov po matematike. Leningrad, Izd-vo Leningr. univ., 1965. 55 p. (MIRA 18:9)

MAKOST'YEV, K.Ya., prof., red.; I. KIL'KOV, prof., red.;  
TSAR'KINA, Z.I., red.

[Problems in atmospheric physics] Izvestiya Fiziki Atmos-  
fery. No.2. 1963. 190 p. (LIRA 17:7)

L. Leningrad. Universitet.

YANOVSKIY, Boris Mikhaylovich; TSAR'KOVA, Z.I., red.; ZHUKOVA,  
Ye.G., tekhn. red.

[Terrestrial magnetism] Zemnoi magnetizm. Leningrad,  
Izd-vo Leningr. univ. Vol.2. [Theoretical principles of  
the magnetometric method for the study of the earth's  
crust and geomagnetic measurements] Teoreticheskie osnovy  
magnitometrskogo metoda issledovaniia zemnoi kory i  
geomagnitnye izmereniia. 1963. 461 p. (MIRA 17:1)

LYAPUNOV, Aleksandr Mikhaylovich; BASOV, V.P., otv. red.; TSAR'KOVA,  
Z.I., red.; YELIZAROVA, N.A., tekhn. red.

[Investigation of a particular case of the problem of sta-  
bility of motion] Issledovanie odnogo iz osobennykh slu-  
chaev zadachi ob ustoychivosti dvizheniya. Leningrad, Izd-  
vo Leningr. univ., 1963. 115 p. (MIRA 16:10)  
(Mechanics)



SAULIT, V.R.; PADALKO, V.Yu.; TSAR'KOVA, Z.I., red.; ZHUKOVA,  
Ye.G., tekhn. red.

[How to prepare for the entrance tests to a school of higher  
education; physics] Kak gotovit'sia k priemnym ekzamenam v vuz;  
fizika. 2 ispr. izd. Leningrad. Izd-vo Leningr. univ. 1963.  
286 p. (MIRA 16:10)

(Physics--Study and teaching)

VOLKOV, Daniil Makar'yevich; TSAR'KOVA, Z.I., red.

[Differential equations and their application in natural  
science] Differentsial'nye uravneniia i ikh prilozheniia  
v estestvoznani. Leningrad, Izd-vo Leningr. univ.  
Pt.2. 1964. 155 p. (MIRA 18:2)

BARANTSEV, Rem Georgiyevich; TSAR'KOVA, Z.I., red.

[Lectures on transonic gas dynamics] Lektsii po trans-  
zvukovoi gazodinamike. Leningrad, Izi-vo Leningr., univ.,  
1965. 215 p. (MIRA 18:6)

MATVEYEV, Nikolay Mikhaylovich; TSAR'KOVA, Z.I., red.

[Differential equations] Differentsial'nye uravneriia.  
Izd.2., perer. [Leningrad] Izd-vo Leningr. univ., 1965.  
366 p. (MIRA 18:7)

FOK, Vladimir Aleksandrovich; TSAR'KOVA, Z.I., red.

[Quantum physics and the constitution of matter]  
Kvantovaya fizika i stroenie materii. Leningrad,  
Izd-vo Leningr. univ., 1965. 27 p. (MIRA 19:1)

KOBUSHKIN, Viktor Kirillovich; KONDRAT'YEV, Aleksandr Sergeyevich;  
PRIYATKIN, Nikolay Aleksandrovich; TSAR'KOVA, Z.I., red.

[Collection of problems in physics; in aid of persons  
enrolling in schools of higher learning] Sbornik zadach  
po fizike; v pomoshch' postupaiushchim v vysshie uchebnye  
zavedeniia. Leningrad, Izd-vo Leningr. univ., 1965. 84 p.  
(MIKA 19:1)

KOROLEV, V.S., inzh.; TSARNAKH, A.B., inzh.

Pneumatic-tube transportation of raw materials in flax  
processing plants. Tekst.prom. 20 no.2:21-22 F '60.  
(MIRA 13:6)

1. Sudislavl'skiy l'nosaved (for TSarnakh).  
(Pneumatic-tube transportation)  
(Flax)

TSIRKOV, V.I.

Dredging Machinery

Use of welded wheels for dredge pumps. Rab. energ. 2, no. 5, 1952.

9. Monthly List of Russian Accessions, Library of Congress, Nov. 1952, ~~1952~~, Unclassified.



TSAR'KOV, V.I., master

Device for sorting the balls in a ball mill without the necessity  
of unloading them. Energetik 9 no.12:15-16 D '61. (MIRA 15:1)  
(Crushing machinery)

TSAR'KOV, V.M., insh.

Switching circuit for obtaining a dynamic light effect. Svetotekhnika  
(MIRA 11:7)

4 no. 8:23-24 Ag '58.

(Electric lighting)

(Electric switchgear)

*TSAR'KOV, V.M.*  
GORBACHEV, N.V., kand. tekhn. nauk;

TSAR'KOV, V.M., inzh.

Decorative illumination of Moscow during the Sixth World Festival. Svetotekhnika 4 no.3:25-29 Mr '58. (MIRA 11:2)

1. Vsesoyuznyy svetotekhnicheskiy institut.  
(Moscow--Lighting, Architectural and decorative)

DEMCHIEV, Vladimir Ivanovich; TSAR'KOV, Vladimir Mikhaylovich;  
ASHKENAZI, G.I., red.; LARIONOV, G.Ye., tekhn. red.

[Floodlighting systems] Prozhektornoe osveshchenie. Mo-  
skva, Gosenergoizdat, 1962. 60 p. (Biblioteka elektro-  
montera, no.61) (MIRA 15:7)  
(Electric lighting)

GORBACHEV, N.V., kand.tekhn.nauk; TSAR'KOV, V.M., inzh.

Outdoor and architectural lighting of the Hall of Congresses in the  
Kremlin. Svetotekhnika 8 no.1:18-24 Ja '62. (MIRA 15:1)

1. Vsesoyuznyy svetotekhnicheskii institut.  
(Moscow--Kremlin--Lighting, Architectural and decorative)

BELOVA, I.T., kand.tekhn.nauk; GORBACHEV, N.V., kand.tekhn.nauk;  
IVANOVA, N.S., kand.tekhn.nauk; KROL', TS.I., kand.tekhn.nauk;  
OSTROVSKIY, M.A., kand.tekhn.nauk; SHEFTEL', Ye.B., kand.tekhn.nauk;  
TSAR'KOV, V.M., inzh.

Proposed new version of "Norms on electric lighting."  
Svetotekhnika 7 no.8:14-22 Ag '61. (MIRA 14:7)

1. Vsesoyuznyy svetotekhnicheskiy institut.  
(Electric lighting—Standards)

*TSAR'KOVA, A.A.*  
KIRPICHEV, Ye.F., kandidat tekhnicheskikh nauk; TSAR'KOVA, A.A., inzhener.

Comparative testing of different cyclones on stand [with summary  
in English]. Teploenergetika 4 no.10:60-65 O '57. (MLRA 10:9)

1. TSentral'nyy kotloturbinnyy inatitut.  
(Dust collectors) (Boilers)

S/183/60/000/004/008/014/XX  
B004/B075

AUTHORS: Meskina, E. I., Fikhman, V. D., Petrunin, N. I.,  
Tsar'kova, A. V.

TITLE: Ways for Reducing the Consumption of Dimethyl Formamide in  
the Production of Nitron Fiber

PERIODICAL: Khimicheskiye volokna, 1960, No. 4, pp. 13-18

TEXT: The authors attempted to determine the losses in dimethyl formamide (DMF) in the individual stages of the production of Nitron fiber and the possibilities of reducing these losses. They experimentally studied the hydrolysis of DMF at 100°C in 25, 60, and 92% aqueous solution. A KY-1 (KU-1) cation exchanger was used for analyzing the mixture. To study the effect of impurities on the hydrolysis, it was studied also with additions of 0.17% oxalic acid, and admixtures of stainless steel of type 1X19H9T (1Kh19N9T) (this steel is used for the construction of apparatus in which Nitron fiber is precipitated). The experimental results are given in Fig. 2. The loss in DMF due to the hydrolysis at 100°C was estimated to 0.027 kg, at 80°C to 0.001 kg per kg of fiber. Furthermore, the authors studied the

Card 1/5



Ways for Reducing the Consumption of Dimethyl S/183/60/000/004/002/014/XX  
Formamide in the Production of Nitron Fiber B004/B075

effect of various rectification methods on the DMF losses. They found that the rectification of the mixture water-DMF in vacuo at only 90-100°C considerably reduces hydrolysis. A general calculation of the DMF losses in the individual divisions of the pilot plant (in kg per kg of fiber) yielded the following results:

spinning division and chemical division . . . . .	0.09-0.40
rectification . . . . .	0.04-0.07
vacuum distillation . . . . .	0.06-0.07
	<hr/> 0.20-0.53

The DMF losses in the chemical division and the spinning division consist of the loss occurring when changing the filters (0.018 - 0.052 kg/kg of fiber) and the amount of DMF carried along by the fiber (0.006-0.02 kg/kg). These losses can be reduced to 0.001 kg/kg by additional washing. Further losses were caused by the removal of DMF by ventilators. These losses are due to the insufficient packing of the apparatus in the chemical division. They can be completely eliminated. In the spinning division, however, the evaporation of DMF cannot be avoided. This loss is estimated to 0.112 kg/kg. The authors discuss the regeneration of DMF from the ventilator air of the spinning division. T. M. Ivanova, collaborator of the first association

Card 2/5

Ways for Reducing the Consumption of Dimethyl Formamide in the Production of Nitron Fiber S/183/60/000/004/008/014/A/ B004/B075

has already studied adsorption by means of charcoal which, however, proved inadequate. On the basis of the equilibrium curve of vapor pressure of DMF above water, absorption of DMF by water is suggested. The water of the distillation column of the rectifier division is capable of absorbing up to 90% of DMF contained in the ventilator air. Considering the possible improvements, the following conclusions are drawn:

DMF losses, kg/kg Nitron chemical division	0.01 - 0.012
by the fiber . . . . .	0.001
spinning division . . . . .	0.04 - 0.045
regeneration . . . . .	0.05 - 0.06
other losses . . . . .	0.009 - 0.008
	<u>0.11 - 0.13</u>

The following can be regenerated in the absorption of DMF from ventilator air by means of water: . . . . . 0.035 - 0.04  
 remaining loss . . . . . 0.075 - 0.09

There are 4 figures, 4 tables, and 4 references: 3 Soviet and 1 German.

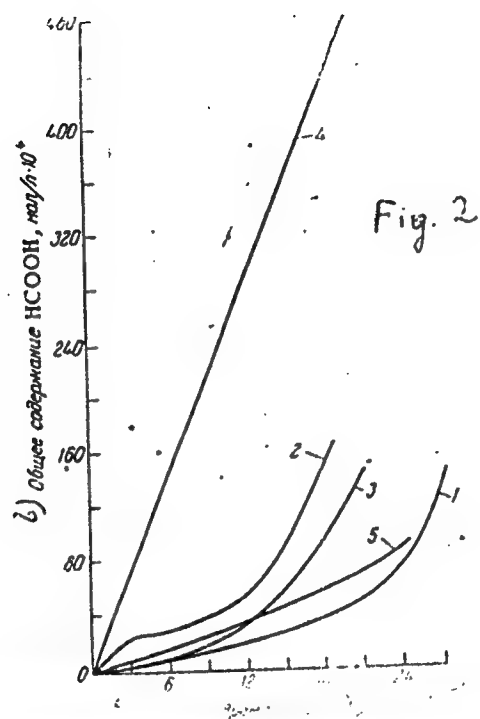
Card 3/5

Ways for Reducing the Consumption of Dimethyl S/183/60/000/004/002/014/XX  
Formamide in the Production of Nitron Fiber B004/B075

ASSOCIATION: Kalininskiy filial VNIIV (Kalinin Branch of the All-Union  
Scientific Research Institute of Synthetic Fibers): Meskina,  
E. I., Fikhman, V. D.; Eksperimental'nyy zavod VNIIV  
(Pilot Plant of the All-Union Scientific Research Institute  
of Synthetic Fibers): Petrunin, N. I., Tsar'kova, A. V.

Legend to Fig. 2: 1) 25% solution of DMF without additions; 2) 60% solution  
of DMF without additions; 3) 60% DMF with addition of stainless steel of  
the type 1Kh18N9T; 4) 60% DMF with addition of oxalic acid (0.17% calculated  
for DMF); 5) 92% DMF without addition; a) hours, b) total content of  
HCOOH mole/l.  $\cdot 10^4$ .

Card 4/5



S/183/60/000/004/008/014/77  
B004/B075

Card 5/5

TSAR'KOVA, L.A., Cand Med Sci -- (diss) "Lupus Tuberculosis  
and Organization of Its Control in the City of Sverdlovsk and  
in Sverdlovskaya Oblast." Sverdlovsk, 1957. 11 pp ~~Kazan~~  
~~State Med Inst, Kazan State Univ Inst of~~ (Sverdlovsk State  
Med Inst), 200 copies (KL, 49-57, 116)

- 71 -

TSAR'KOVA, L.N.; ODINOKOVA, V.A.

Infarcts of the spleen in hypertension. Trudy MONIKI no.5:  
215-219 '62. (MIRA 16:4)

1. Iz II terapevticheskoy kliniki Moskovskogo oblastnogo nauchno-  
issledovatel'skogo klinicheskogo instituta imeni Vladimirovskogo  
(zav. - doktor med.nauk L.P.Pressman) i patologo-anatomicheskogo  
otdela (zav. - prof. S.B.Vaynberg [deceased])  
(SPLEEN--INFARCTION) (HYPERTENSION)

TSAR'KOVA, L.N.; OSTRUN, Yu.Z.

V.A.Valdman's cup test in determining the activity of the  
rheumatic process. Trudy MONIKI no.5:29-34 '64 (MIRA 16:4)

1. II terapevticheskaya klinika Moskovskogo oblastnogo  
nauchno-issledovatel'skogo klinicheskogo instituta imeni  
Vladimirovskogo (zav. 2 doktor med.nauk L.P.Pressman).  
(RHEUMATIC FEVER) (MEDICAL TESTS)

CHERNYKH, Klimentiy Fedos'yevich; SHAMINA, V.A., red.; TSAR'KOVA,  
Z.I., red.; VODOLAGINA, S.D., tekhn. red.

[Linear theory of shells] Lineinaya teoriya obolochek. Le-  
ningrad, Izd-vo Leningr. univ. Pt.1. [General theory] Ob-  
shchaya teoriya. 1962. 273 p. (MIRA 15:4)  
(Elastic plates and shells)



VOLKOV, Daniil Makar'yovich; TSAR'KOVA, Z.I., red.; ZHUKOVA, Ye.G.,  
tekhn. red.

[Differential equations and their application in natural sci-  
ence] Differentsial'nye uravneniia i ikh prilozheniia v  
estestvoznanii. Leningrad, Izd-vo Leningr. univ., 1961. 132 p.  
(MIRA 15:3)

(Differential equations)

RUSAKOV, I.M., inzh.; TSAR'KOV, A.A., kand.tekhn.nauk

Study of flat hydraulic jacks. Bet.1 zhel.-bet. 9 no.12:558-561 D '63.  
(MIRA 17:2)

1. Ispolnyayushchiy obyazannosti zaveduyushchego kafedroy stroitel'stva zheleznykh dorog Vs-soyuznogo zaochnogo instituta inzhenerov zhelezno-dorozhnogo transporta.

USSR/Cultivated Plants - Grains.

M

Abs Jour : Ref Zhur Biol., No 18, 1958, 82294

Author : Tsarova, P.I.

Inst : AS Belorussian SSR

Title : Characteristics of the Development of Barley Varieties Differing in Their Resistance to Damping-Off on Peat Bog Soils.

Orig Pub : Vestsi AN BSSR. Ser. biol. n., Izv. AN BSSR. Ser. biol. n., 1957, No 3, 83-104

Abstract : The most resistant to damping-off and the most productive proved to be varieties 18163, 17013, Bolotnyy, Kol-khoznyy golozarnyy No 7 and Zvezda. The greatest lodging at the lower part of the stem was observed during the period of spike formation and the beginning of milky maturity, that is during the period of the greatest

Card 1/2

USSR/Cultivated Plants - Grains.

M

Abs Jour : Ref Zhur Biol., No 18, 1958, 82294

damping-off of the plants. In the barley varieties with a higher resistance to damping-off, a larger amount of dry matter and chlorophyll accumulated in the leaves in the early phases of development than in the varieties which damp off. Therefore, plants of the resistant varieties completed their growth earlier and were distinguished by a more intensive formation of dry matter in the stems especially in the lower internodes. As an indicator it is recommended to take the weight of the unit of length of lower internodes during the spike formation stage. -- A.F. Knyazova

Card 2/2

-- 25 --

TSAROVA, R.I.

Some characteristics of hybrids obtained from hardy barley  
varieties and raised in peat soils. Vestsi AN BSSR. Ser.bial.  
nav. no.2:43-52 '60. (MIRA 13:7)  
(WHITE RUSSIA--BARLEY VARIETIES) (PEAT SOILS)

TSAROVA, R.I.

Anatomical and morphological characteristics of some barley varieties  
with regard to lodging on peat-bog soils. Vestsi AN BSSR Ser. bial.  
nav. no.1:31-41 '58. (MIRA 11:5)  
(Barley--Varieties)

KONDRAT'YEV, K.Ya., prof., otv.red.; TSAR'KOVA, Z.I., red.; ZHUKOVA,  
Ye.G., tekhn.red.

[International Geophysical Year; collection of articles and  
data] Mezhdunarodnyi geofizicheskii god. Annee Geophysique  
Internationale; sbornik statei i materialov. Leningrad, 1960.  
222 p. (MIRA 13:7)

1. Leningrad. Universitet.  
(Geophysical research)

BUKIN, Anatoliy Nikolayevich; FILIPPOV, Mikhail Mikhaylovich;  
ISAYEV, Andrey Elyubovich; TSAR'KOVA, Z.I., red.;  
YELIZAROVA, N.A., tekhn. red.

[Oscillographic recording of super-high frequency oscillations] Ostsillografirovanie kolebanií sverkhvysokikh chastot. Leningrad, Izd-vo Leningradskogo univ., 1963. 211 p.  
(MIRA 16:4)

(Oscillograph) (Microwave measurements)  
(Electric measurements)



LEVINSON, Ioshua Ben'yaminovich; NIKITIN, Aleksey Alekseyevich.  
Prinimal uchastiye GUTMAN, A.M., nauchnyy sotr.; TSAR'KOVA,  
Z.I., red.; YELIZAROVA, N.A., tekhn. red.

[Handbook on the theoretical calculation of line intensities  
in atomic spectra]Rukovodstvo po eoreticheskomu vychisleniiu  
intensivnosti lini v atomnykh spektrakh. Leningrad, Izd-vo  
Leningr. univ., 1962. 358 p. (MIRA 16:3)  
(Spectrum, Atomic)

7

PROCESSING AND PROPERTY INDEX

**Mariupolites and pegmatites related to them** I. D. Tsarovskii. *J. geol. Acad. Sci. USSR*, N. S. R. 6, No. 1, 97-129 (in English, 127-9) + 6 pp. photographs (1949).

Under certain conditions the concn. of  $ZrSiO_4$  mineral may become so high that exploitation of bed rock deposits is feasible. The pegmatite-forming process in the Mariupol Azov deposits was distinguished by considerable development of the second phase of zircon, when it came out with albite rather than with the dark minerals as in the Ilmen deposits. During the crystn. of the alk. massive the ratio Na:K increased and in the final phase mariupolite came out entirely free of K. The nephelite pegmatite process yielded microcline-nephelite pegmatite and mariupolite with pegmatite extensions and leucocratic facies of "albite." Later aegirine-nephelite-albite contg. lepidolite and magnetite came out. After the dark minerals, zircon with albite sepd. out in the aegirite crystn. The participation of volatile compds. of Cl,  $CO_2$  and F is indicated. Ti, P and Ca played only a minor role, and thus simplified the scheme greatly. In the post-pegmatite phase, leaching of baux by thermal hydrolysis took place, and led to products akin to kaolin. This enables easy sepn. of the Zr-contg. mineral from residual rock.

P. H. Rothmann

ASS-SLA METALLURGICAL LITERATURE CLASSIFICATION

83041 51061170

83033 410 000 001

83111 000

83111 001 000 001

1ST AND 2ND GROUPS

PROCESSES AND PROPERTIES INDEX

CA

Black-ore minerals of the Mariupol alkaline massive  
 Yu. Yu. Yurk and I. D. Tsarova'kil. *J. Geol. Acad.  
 Sci. Ukrain. S. S. R.* 7, Nov. 12, 151-60 (in English,  
 161-2) (1940).—Field observations confirmed Lebedev's  
 theory of the relation between Ti and Cb-Ta contents.  
 The alk. syenites (I) contain 0.5-1.0%  $TiO_2$ ; the nepheline  
 syenites (II), 0.2-0.6. Ilmenite is common in the former.  
 Magnetite is found chiefly in I. The ilmenite-magnetite  
 ratio in syenite-pegmatites is 1:10; in the titanite-mag-  
 netites, 0.08-1.0. The  $TiO_2$  content of Mariupol diron-  
 ites varies from 48 to 51%; MnO 1.7-2.0; (Cb + Ta) 0.2-0.4;  
 up to 0.4 and  $V_2O_5$  0.01%. Titanite is usually observable  
 only microscopically in isomorphous admixt. with actinolite  
 and lepidomelane or zircon. Ilmenite is related to rutile,  
 magnetite and hematite.  
 F. H. Rathmann

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

62-12-1

TSAROVSKIY, I. D.

PA 58T44

USSR/Geology  
Chemical Tests

Aug 1947

"Characteristics of Residual Crystallization in the  
October (Mariupol) Alkaline Mountain Range," I. D.  
Tsarovskiy, Inst Geol Sci, Acad Sci USSR, 2 $\frac{1}{2}$  pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 5

In October Range, formation of alkaline complex  
occurred in two directions: appearance of a general  
reduction of  $SiO_2$ , and an unchecked increase of alka-  
li, especially of Na. Presents graph showing change  
in ratio of Na:K, and discusses results. Submitted  
by Academician D. S. Belyankin, 1 Mar 1947.

58T44

TSAROVSKIY, I.D.

35933      0 barite iz severovostochnoy chasti priazov'ya. mineral.  
sbornik (l'vov), No. 3, 1949, S. 214-16

SO: Letopis' Zhurnal'nykh Statey, No. 49, 1949

-----, . . . .  
"On the Age of Myonite Complex of Southeastern Ukr SSR"  
Dokl. Ak Nauk SSSR, vol. 75, No. 5, 1950.

Article from Inst. Geol. Sci. (Inst. Geol. Sci. Ukr SSR)

USSR, I.D.

USSR/Geology

Card : 1/1 Pub. 46 - 5/16

Authors : Tsarovskiy, I. D.

Title : Types of geological structures of alkaline rocks in the Ukr-SSR

Periodical : Izv. AN SSSR. Ser. geol. 4, 101 - 112, July - August 1954

Abstract : Three types of geological structures (intrusive, fissure and arch) of alkaline rocks found in the Ukr-SSR, are described. The existence of a close relation between the type of structure, geological conditions of formation and the genesis of alkaline rocks was established. Twenty-four references: 22 USSR, 1 Polish and 1 Canadian (1899 - 1953). Tables; drawings.

Institution : ....

Submitted : January 18, 1954

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756920011-9

13000/5000 10

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756920011-9"



~~TSAROVSKIY, I.D.~~

Correlation of mariupolite with normal foyaites (based on materials  
from the Azov region). Geol. zhur. 17 no.1:70-73 '57. (MLRA 10:4)  
(Mariupolite) (Foyaites)

PLANNING I.D.

Northline by site is shown in the paper Valley and the region  
of the Sea of Azov. Study in the book. no. 19:772-776 '64  
(MIRA 17:8)

TSAROVSKIY, I.D.; TIMOSHENKO, O.D.

Find of nepheline syenites in the middle Dnieper Valley. Zap.Vses.min.  
ob-va 92 no.4:474-476 '63. (MIRA 17:2)

TSAROVSKIY, I.D.

Find of pseudoleucite in the Ukraine. Zap. Ukr. otd. Min.  
ob-va [no.1]:160-161 '62. (MIRA 16:8)

1. Institut geologicheskikh nauk AN UkrSSR, otdel petrografii,  
Kiyev.

TSAROVSKIY, I.D.

Using isovariation diagrams for the delimitation of metasomatic  
and igneous rocks. Geokhimiia no.4:425-433 Ap '63.  
(MIRA 16:7)

1. Institute of Geological Sciences, Academy of Sciences,  
Ukrainian Soviet Socialist Republic, Kiev.  
(Rocks, Igneous)  
(Rocks, Crystalline and metamorphic)

TSAROVSKIY, I.D.

Pseudoleucitic tinguaitite-porphyry from the Yelanchik region (southeastern edge of the Ukrainian Crystalline Shield). Dokl. AN SSSR 149 no.4:951-953 Ap '63. (MIRA 16:3)

1. Institut geologicheskikh nauk AN UkrSSR. Predstavleno akademikom D.S.Korzhinskim.

(Dnieper Valley--Porphyry)

USENKO, I.S.; KALYAYEV, G.I. [Kaliayev, H.I.]; LICHAK, I.L. [Lychak, I.L.];  
TSAROVSKIY, I.D. [TSarovs'kyi, I.D.]

Formations of the Ukrainian Shield. Geol.zhur. 23 no.1:30-51 '63.  
(MIRA 16:4)

1. Institut geologicheskikh nauk AN UkrSSR.  
(Dnieper Valley—Geology)

TSAROVSKIY, I.D. [TSarova'kyi, I.D.]; TIMOSHENKO, O.D. [Tymoshenko, O.D.]

New Lesser Tersyanka syenite-foyaite (middle Dnieper Valley).  
Geol.zhur. 22 no.6:83-88 '62. (MIRA 16:2)

1. Institut geologicheskikh nauk AN UkrSSR i Kompleksnaya  
ekspeditsiya tresta "Dneprogeologiya".  
(Dnieper Valley—Nepheline syenite)



TSAROVSKIY, I.D. [TSarovs'kyl, I.D.]; KRAVCHENKO, G.L. [Kravchenko, H.L.]

Structure of the South-Kal'chik syenite massif (eastern part of the region of the Sea of Azov). Dop. AN URSR no.2:241-245 '62.  
(MIRA 15:2)

1. Institut geologicheskikh nauk AN USSR. Predstavleno akademikom AN USSR N.P.Semenenko [Semenenko, M.P.].  
(Kal'chik Valley—Syenite)

TSAROVSKIY, I.D.

Paleozoic malignates in the convergence zone of the region of the  
Sea of Azov and the Donets Basin. Izv.AN SSSR.Ser.geol. 26 no.7:  
110-114 JI '61. (MIRA 14:7)

1. Institut geologicheskikh nauk AN USSR, Kiyev.  
(Donets Basin—Malignite) (Azov Sea region—Malignite)

DREVIN, A.Ya.; ZARITSKIY, A.I.; TSAROVSKIY, I.D.

Structure of the southeastern marginal part of the Ukrainian  
crystalline shield (Pokrovskoye-Kireyev structure). Sov.geol.  
3 no.10:137-140 0 '60. (MIRA 13:10)

1. Trast Artengeologiya (Priazovskaya ekspeditsiya) i Institut  
geologicheskikh nauk AN USSR.  
(Dnieper Valley--Geology, Structural)

TSAROVSKIY, I.D.

Concerning S.A. Rudenko's article "Method and mechanism of formation of zircon crystals in mariupolite." Zap. Vses. min. ob-va 87 no.3: 385-387 '58. (MIRA 11:10)

1. Institut geologii AN USSR, Kiev.  
(Zircon) (Mariupolite)

Tsarovskiy, I.D.

AYZENBERG, D.Ye., geolog; BALUKHOVSKIY, N.F., geolog; BARTOSHEVSKIY, V.I., geolog; BASS, Yu.B., geolog; VADIMOV, N.T., geolog; GLADKIY, V.Ya., geolog; DIDKOVSKIY, V.Ya., geolog; YERSHOV, V.A., geolog; ZHUKOV, G.V., geolog; ZAMORIY, P.K., geolog; IVANTISHIN, M.N., geolog; KAPTARENKO-CHERNOUSOVA, O.K., geolog; KLIMENKO, V.Ya., geolog; KLUSHIN, V.I., geolog; KLYUSHNIKOV, M.N., geolog; KRASHENINNIKOVA, O.V., geolog; KUTSYBA, A.M., geolog; LAPCHIK, F.Ye., geolog; LICHAK, I.L., geolog; MAKUKHINA, A.A., geolog; MATVIYENKO, Ye.M., geolog; MEDYNA, V.S., geolog; MOLYAVKO, G.I., geolog; NAYDIN, D.P., geolog; NOVIK, Ye.O., geolog; POLOVKO, I.K., geolog; RODIONOV, S.P., geolog; SEMENENKO, N.P., akademik, geolog; SERGEYEV, A.D., geolog; SIROSHTAN, R.I., geolog; SLAVIN, V.I., geolog; SUKHAREVICH, P.P., geolog; TKACHUK, L.G., geolog; USENKO, I.S., geolog; USTIKHOVSKIY, Yu.B., geolog; TSAROVSKIY, I.D., geolog; SHUL'GA, P.L., geolog; YURK, Yu.Yu., geolog; YAMNICHENKO, I.M., geolog; ANTROPOV, P.Ya., glavnyy redaktor; FILIPPOVA, B.S., red. izd-va; GUROVA, O.A., tekhn.red.

[Geology of the U.S.S.R.] Geologiya SSSR. Glav. red. P.IA.Antropov. Vol.5.[Ukrainian S.S.R., Moldavian S.S.R.] . . . Ukrainskaya SSR, Moldavskaya SSR. Red. V.A. Ershov, N.P. Semenenko. Pt.1.[Geological description of the platform area] Geologicheskoe opisanie platformnoi chasti. Moskva, Gos. nauchno-tekhn.izd-vo lit-ry po geol. i okhrane nedr. 1958. 1000 p. [\_\_\_ Supplement] \_\_\_ Prilozhenia.  
(Continued on next card)

AYZENVERG, D.Ye.---(continued) Card 2.

3 fold.maps (in portfolio)

(MIRA 12:1)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye geologii i okhrany neдр. 2. Ukrainskoye geologicheskoye upravleniye Ministerstva geologii i okhrany neдр SSSR i Institut geologicheskikh nauk Akademii nauk USSR (for all except Antropov, Filippova, Gurova).
3. Glavnyy geolog Ukrainskogo geologicheskogo upravleniya (for Yershov).
4. AN Ukrainskoy SSR (for Semenenko).  
(Ukraine--Geology) (Moldavia--Geology)

TSAROVSKIY, I.D. [TSarovs'kiy, I.D.]

Concerning S.O.Rudenko's article "Method and mechanism of formation  
of zircon crystals in mariupolite." Geol. zhur. 18 no. 2:97-99 '58.  
(MIRA 11:7)

(Zircon)  
(Mariupolite)

TSAROVSKIY, I.Z., inzh.; KARZANOVA, V.P., inzh.

Experimental study of the creation of equipment and the technology  
of double-layer ceramic blocks. Sbor.trud. VNIistrommasha no.2:  
5-78 '60. (MIRA 16:12)



TSAROVSKIY, I.Z., inzh.; KLESHCHEV, I.T., inzh.

Unit for molding two-layer ceramic bricks. Stroitel. dor.  
mashinost. 4 no.10:26-28 0 '59. (MIRA 13:2)  
(Ceramics)

L 3898-66 EWT(m)/EWP(w)/T/EWP(t)/EWP(b)/EWA(c) IJP(c) JD/JG

ACC NR: AP5022945

UR/0201/65/000/002/0084/009167

64  
E

AUTHOR: Savitski, Ya. M.; Tsarow, G. L.

TITLE: Investigation of the effect of interstitial impurities on the structure and properties of tungsten single crystals

SOURCE: AN BSSR. Vestsi. Seryya fizika-tekhnichnykh navuk, no. 2, 1965, 84-91

TOPIC TAGS: interstitial impurity, impurity containing crystal, tungsten, tungsten single crystal, single crystal, carbon containing crystal, oxygen containing crystal, nitrogen containing crystal, crystal structure, crystal property

ABSTRACT: Tungsten single crystals, 4 mm in diameter and 250 mm long, were grown by electron-beam zone melting in a vacuum of  $5 \cdot 10^{-5}$  mm Hg. The single crystals contained 0.0012% C and 0.001% each  $O_2$  and  $N_2$ . To determine the effect of interstitial impurities on the structure and mechanical properties, the single crystals were artificially contaminated with carbon, oxygen, or nitrogen, vacuum homogenized at about 2000C for 8 hr, and then tested for mechanical strength at 25C. It was found that after impregnation with C in a vacuum of  $2 \cdot 10^{-6}$  mm Hg at 1300C for 6 hr, the carbon content in the crystals increased to 0.054%, i.e., almost 45 times. Carbon was present mostly in the form of finely dispersed carbides. Carbon increased the dislocation density from  $1.2 \cdot 10^6$  to  $1 \cdot 10^7/cm^2$ , probably because of the relaxation of internal stresses resulting from the introduction of hexagonal  $W_2C$  carbide into the cubic lattice of W. The critical-cleavage stress and the yield strength at 25C increased from 15.7 to 34.1 and from 34.0 to 73 kg/mm<sup>2</sup>, respectively. The

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microhardness: increased only slightly, but the reduction of area decreased from 100 to 40%, and the NDT temperature rose from -196 to 0C. This is ascribed to the formation of dislocation sources — carbides — in the presence of which the plastic deformation proceeds mainly on account of the multiplication of dislocations. Impregnation with oxygen at 1200C for 48 hr increased the  $O_2$  content in crystals from 0.001 to 0.002% and decreased slightly (by  $2.5 \text{ kg/mm}^2$ ) the critical-cleavage stress. Oxygen had no effect on the ductility of the crystals, but improved somewhat the dislocation density and distribution by reacting with and decreasing the amount of dispersed carbides, thereby ensuring a freer movement and subsequent annihilation of dislocations. Impregnation with nitrogen (at 2300C for 5 hr) brought about no changes in the structure or mechanical properties of the crystals. No nitrides were detected in the crystal structure and, if they were formed, they exist only at the surface or grain boundaries. Orig. art. has: 5 figures and 2 tables. [MS]

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

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NO REF SOV: 005

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Reconditioning of worn-out parts by electrolytic chromium  
plating. Elektroenergiia 12 no.11/12:49-51 M-D '61: